

## EAST Search History

S13 1	14	S130 and common near4 rejection	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/06 09:59
S13 2	15	("3810182").URPN.	USPAT	OR	ON	2007/04/06 10:13
S13 3	2699	333/25.ccls. or 333/32.ccls. or 333/35.ccls. or 333/4.ccls. or 333/124.ccls. or 333/132.ccls. or 370/282.ccls. or 370/281.ccls.	US-PGPUB; USPAT	OR	ON	2007/04/06 10:14
S13 4	1309	S133 and S129	US-PGPUB; USPAT	OR	ON	2007/04/06 10:15
S13 5	18	S134 and balanced near4 output and differential near4 signal	US-PGPUB; USPAT	OR	ON	2007/04/06 10:19
S13 6	560	S134 and phase	US-PGPUB; USPAT	OR	ON	2007/04/06 10:19
S13 7	353	S134 and phase and transmit\$3 and receiv\$4	US-PGPUB; USPAT	OR	ON	2007/04/06 10:20
S13 8	367	S134 and phase and transmit\$4 and receiv\$4	US-PGPUB; USPAT	OR	ON	2007/04/06 10:20
S13 9	3	("20050226353"   "5995567"   "6052420").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/09 11:06
S14 0	24126	differential adj signal	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/09 11:07
S14 1	1839	S140 and quadrature	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/09 11:08
S14 2	219	S140 and duplexer	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/09 11:09
S14 3	40	S142 and "I2"	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/09 11:10
S14 4	134671	"I2"	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/09 11:10
S14 5	4064228	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2007/04/09 11:10
S14 6	4064228	S145	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/09 11:10
S14 7	104	S145 and S142	US-PGPUB; USPAT	OR	ON	2007/04/09 11:28

## EAST Search History

S14 8	167	differential near4 signal same (duplexor or duplexer or transmit near4 switch or diplexer)	US-PGPUB; USPAT	OR	ON	2007/04/09 11:29
S14 9	167	differential near4 signal same (duplexor or duplexer or (transmit near4 switch) or diplexer)	US-PGPUB; USPAT	OR	ON	2007/04/09 11:29
S15 0	107	S149 and S145	US-PGPUB; USPAT	OR	ON	2007/04/09 11:29

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1259	370/276.ccls. or 370/280.ccls. or 370/284.ccls. or 370/287.ccls. or 370/288.ccls. or 370/289.ccls. or 370/294.ccls.	US-PGPUB; USPAT	OR	ON	2007/01/08 14:43
S2	4015057	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2006/05/15 13:02
S3	961	S1 and S2	US-PGPUB; USPAT	OR	ON	2006/05/15 13:03
S4	6	S3 and single near2 phase and differential	US-PGPUB; USPAT	OR	ON	2006/05/15 13:04
S5	215	S3 and differential	US-PGPUB; USPAT	OR	ON	2006/07/19 16:33
S6	223	standby adj time and "370"/\$.ccls.	US-PGPUB; USPAT	OR	ON	2006/05/15 18:07
S7	45	S6 and duplex	US-PGPUB; USPAT	OR	ON	2006/05/15 16:57
S8	80	standby adj time and "455"/\$.ccls. and duplex	US-PGPUB; USPAT	OR	ON	2006/05/15 18:08
S9	4015057	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2006/05/15 18:08
S10	72	S9 and S8	US-PGPUB; USPAT	OR	ON	2006/05/16 13:19
S11	8905	455/269.ccls. or 455/272.ccls. or 455/276.1.ccls. or 455/277.1.ccls. or 455/78.ccls. or 455/83.ccls. or 455/101.ccls. or 455/63.1.ccls. or 455/67.11.ccls. or 455/67.13.ccls. or 375/346.ccls. or 375/295.ccls. or 375/296.ccls. or 375/226.1.ccls. or 375/232.1.ccls.	US-PGPUB; USPAT	OR	ON	2006/05/16 13:21
S12	4016496	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2006/05/16 13:21
S13	6439	S11 and S12	US-PGPUB; USPAT	OR	ON	2006/05/16 13:21
S14	207	S13 and in adj phase	US-PGPUB; USPAT	OR	ON	2006/05/16 15:00
S15	16	455/83.ccls. and transmi\$5 near4 leak	US-PGPUB; USPAT	OR	ON	2006/05/16 15:01
S16	15	S15 and S12	US-PGPUB; USPAT	OR	ON	2006/05/16 15:46
S17	60	S11 and transmi\$5 near4 leak	US-PGPUB; USPAT	OR	ON	2006/05/16 15:47
S18	43	S17 and S12	US-PGPUB; USPAT	OR	ON	2006/05/16 15:47

## EAST Search History

S19	28	S18 not S16	US-PGPUB; USPAT	OR	ON	2006/05/16 16:36
S20	830	S13 and duplex	US-PGPUB; USPAT	OR	ON	2006/05/16 16:36
S21	1230	S13 and duplex\$3	US-PGPUB; USPAT	OR	ON	2006/05/16 16:36
S22	29	S21 and balance and quadrature	US-PGPUB; USPAT	OR	ON	2006/05/16 16:36
S23	66	S21 and balan\$3 and quadrature	US-PGPUB; USPAT	OR	ON	2006/05/16 16:36
S24	15	(US-20040033787-\$ or US-20030035470-\$ or US-20020004372-\$ or US-20010053671-\$).did. or (US-6487614-\$ or US-6304106-\$ or US-5719856-\$ or US-6996164-\$ or US-6760568-\$ or US-6125266-\$ or US-6393259-\$ or US-6118985-\$ or US-5634200-\$ or US-5507011-\$ or US-6507728-\$).did.	US-PGPUB; USPAT	OR	ON	2006/05/16 17:41
S25	6	S24 and quadrature	US-PGPUB; USPAT	OR	ON	2006/05/16 17:49
S26	1	"6603810".pn.	US-PGPUB; USPAT	OR	ON	2006/05/16 17:49
S27	15	("4328579"   "4670874"   "4670888"   "4674084"   "5444561"   "5457473"   "5479447"   "5646771"   "5701331"   "5742135"   "5761244"   "5767698"   "5826048"   "5841841"   "6057812").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/05/16 18:00
S28	4	("5666354"   "5778204"   "5900752"   "6184714").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/05/16 18:02
S29	4	("3725582"   "4237463"   "5216667"   "5528630").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/05/16 18:02
S30	13	("5719856").URPN.	USPAT	OR	ON	2006/05/16 18:03
S31	0	("2002/0004372").URPN.	USPAT	OR	ON	2006/05/16 18:04
S32	1	("2001/0053671").URPN.	USPAT	OR	ON	2006/05/16 18:04
S33	11	("5109532"   "5280537"   "5596439"   "5625640"   "5860057"   "5894496"   "5896421"   "6009317"   "6011952"   "6246865"   "6330290").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/05/16 18:05
S34	0	("6996164").URPN.	USPAT	OR	ON	2006/05/16 18:05

## EAST Search History

S35	5	("5768690"   "5896562"   "5933767"   "6311045"   "6625424").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/05/16 18:06
S36	5	("5121077"   "5528196"   "5742201"   "6005441"   "6104241").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/05/16 18:06
S37	0	("6393259").URPN.	USPAT	OR	ON	2006/05/16 18:07
S38	2	("5748053"   "5878331").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/05/16 18:07
S39	7	("5748053").URPN.	USPAT	OR	ON	2006/05/16 18:08
S40	13	("3800222"   "4637065"   "5220679"   "5257411"   "5584053"   "5748053"   "5777530"   "5789995"   "5878331"   "5911116"   "6118985"   "6448868"   "6731184").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/05/16 18:08
S41	13	("5634200").URPN.	USPAT	OR	ON	2006/05/16 18:10
S42	5	("3452299"   "4677688"   "5023866"   "5129098").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/05/16 18:12
S43	34	(US-20040033787-\$ or US-20030035470-\$ or US-20020004372-\$ or US-20010053671-\$).did. or (US-6487614-\$ or US-6304106-\$ or US-5719856-\$ or US-6996164-\$ or US-6760568-\$ or US-6125266-\$ or US-6393259-\$ or US-6118985-\$ or US-5634200-\$ or US-5507011-\$ or US-6507728-\$ or US-6625424-\$ or US-6311045-\$ or US-5933767-\$ or US-5896562-\$ or US-5768690-\$ or US-5748053-\$ or US-6983129-\$ or US-5911116-\$ or US-5789995-\$ or US-5777530-\$ or US-5584053-\$ or US-5257411-\$ or US-5220679-\$ or US-4637065-\$ or US-3800222-\$). did. or (US-7038557-\$ or US-6366564-\$ or US-5023866-\$ or US-4677688-\$).did.	US-PGPUB; USPAT	OR	ON	2006/05/16 18:13
S44	13	S43 and phase near4 shift\$3	US-PGPUB; USPAT	OR	ON	2006/05/16 18:13
S45	1	S44 and balanced	US-PGPUB; USPAT	OR	ON	2006/05/16 18:15
S46	5	S44 and quadrature	US-PGPUB; USPAT	OR	ON	2006/05/16 18:18
S47	1798	duplexer and phase near4 shift\$3	US-PGPUB; USPAT	OR	ON	2006/05/16 18:18

## EAST Search History

S48	640	S47 and "455"/\$.ccls.	US-PGPUB; USPAT	OR	ON	2006/05/16 18:18
S49	474	S48 and S12	US-PGPUB; USPAT	OR	ON	2006/05/16 18:18
S50	309	S49 and (quadrature or in near2 phase)	US-PGPUB; USPAT	OR	ON	2006/05/16 18:19
S51	36	S50 and pola\$4	US-PGPUB; USPAT	OR	ON	2006/05/16 18:22
S52	0	satoshi-funayama.in.	US-PGPUB; USPAT	OR	ON	2006/05/16 18:22
S53	5	funayama-satoshi.in.	US-PGPUB; USPAT	OR	ON	2006/05/16 18:23
S54	1	hayashibara-mikio.in.	US-PGPUB; USPAT	OR	ON	2006/05/16 18:24
S55	0	("2002/0085509").URPN.	USPAT	OR	ON	2006/05/16 18:25
S56	1260	370/276.ccls. or 370/280.ccls. or 370/284.ccls. or 370/287.ccls. or 370/288.ccls. or 370/289.ccls. or 370/294.ccls.	US-PGPUB; USPAT	OR	ON	2006/05/17 12:07
S57	4016496	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2006/05/17 12:07
S58	961	S56 and S57	US-PGPUB; USPAT	OR	ON	2006/05/17 12:07
S59	36	S58 and transmi\$5 near4 leak\$3	US-PGPUB; USPAT	OR	ON	2006/05/17 12:29
S60	0	S58 and stand adj by near4 time	US-PGPUB; USPAT	OR	ON	2006/05/17 12:29
S61	8905	455/269.ccls. or 455/272.ccls. or 455/276.1.ccls. or 455/277.1.ccls. or 455/78.ccls. or 455/83.ccls. or 455/101.ccls. or 455/63.1.ccls. or 455/67.11.ccls. or 455/67.13.ccls. or 375/346.ccls. or 375/295.ccls. or 375/296.ccls. or 375/226.1.ccls. or 375/232.1.ccls.	US-PGPUB; USPAT	OR	ON	2006/07/19 16:14
S62	4016496	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2006/05/17 12:29
S63	6439	S61 and S62	US-PGPUB; USPAT	OR	ON	2006/05/17 12:29
S64	51	S58 and S63	US-PGPUB; USPAT	OR	ON	2006/05/17 12:29

## EAST Search History

S65	99	("5257030" "6118984" "6480706" "6973297" "7046980" "20020094794" "20030186660" "20040048585" "20040180633" "20040190479" "20050245283" "4766437" "5905418" "5955992" "5201060" "5680141" "5802451" "6100731" "6141539" "5477229" "5640692" "5894499" "5940291" "6181955" "4326294" "5214435" "5448602" "5588027" "5697083" "5894287" "5894496" "5898906" "5953641" "6091306" "4450419" "4498885" "4556883" "4864310" "5294935" "5296863" "5343173" "5361408" "5379456" "5628057" "5742902" "5760645" "5767807" "5784686" "5842135" "5920277" "6028552" "6115426" "6115419" "6198731" "6208843" "6219534" "6219534" "3883873" "3845484" "3805163" "4307401" "4313220" "4317120" "4373207" "4462107" "4497067" "4617539" "4620193" "4766439" "4853702" "4952193" "4972434" "4994814" "5062148" "5220340" "5263180" "5285172" "5302960" "5369790" "5400039" "5430451" "5517686" "5548344" "5628053" "5668839" "5705940" "5712642" "5722062" "5770970" "5818385" "5821901" "5861840" "5862459" "5901345" "5936591" "5949830" "5986590" "5995062" "5995064" "5999578" ).pn.	US-PGPUB; USPAT	OR	ON	2006/07/19 15:19
S66	17	S65 and duplexer	US-PGPUB; USPAT	OR	ON	2006/07/19 15:44
S67	973	455/78.ccls. or 455/83.ccls.	US-PGPUB; USPAT	OR	ON	2006/07/19 16:14
S68	4029245	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2006/07/19 16:14
S69	647	S67 and S68	US-PGPUB; USPAT	OR	ON	2006/07/19 16:30
S70	152	S69 and duplexer	US-PGPUB; USPAT	OR	ON	2006/07/19 16:30
S71	1524	nakatani.in.	US-PGPUB; USPAT	OR	ON	2006/07/19 16:34
S72	65	nakatani-toshifumi.in.	US-PGPUB; USPAT	OR	ON	2006/07/19 16:34
S73	0	("2005/0242900").URPN.	USPAT	OR	ON	2006/07/19 16:41

## EAST Search History

S74	1	"5886591".pn.	USPAT	OR	ON	2006/07/19 16:52
S75	8160	balanced near4 output	US-PGPUB; USPAT	OR	ON	2006/07/19 16:52
S76	3797	S75 and transmit\$3 and receiv\$3	US-PGPUB; USPAT	OR	ON	2006/07/19 16:53
S77	2616	S76 and phase	US-PGPUB; USPAT	OR	ON	2006/07/19 16:53
S78	1049	S77 and antenna	US-PGPUB; USPAT	OR	ON	2006/07/19 17:58
S79	866	S78 and S68	US-PGPUB; USPAT	OR	ON	2006/07/19 17:58
S80	357	S79 and differential	US-PGPUB; USPAT	OR	ON	2006/07/20 12:29
S81	28	S80 and duplexer	US-PGPUB; USPAT	OR	ON	2006/07/19 18:04
S82	4029280	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2006/07/20 12:29
S83	8163	balanced near4 output	US-PGPUB; USPAT	OR	ON	2006/07/20 12:29
S84	3798	S83 and transmit\$3 and receiv\$3	US-PGPUB; USPAT	OR	ON	2006/07/20 12:29
S85	2617	S84 and phase	US-PGPUB; USPAT	OR	ON	2006/07/20 12:29
S86	1049	S85 and antenna	US-PGPUB; USPAT	OR	ON	2006/07/20 12:29
S87	866	S86 and S82	US-PGPUB; USPAT	OR	ON	2006/07/20 12:29
S88	357	S87 and differential	US-PGPUB; USPAT	OR	ON	2006/07/20 12:29
S89	255	S88 and gain	US-PGPUB; USPAT	OR	ON	2006/07/20 12:43
S90	76	S88 and gain with (higher or lower or greater or smaller or larger or less adj than)	US-PGPUB; USPAT	OR	ON	2006/07/20 12:34
S91	20	S87 and single adj phase	US-PGPUB; USPAT	OR	ON	2006/07/20 12:43
S92	48	third near4 antenna adj feed\$3	US-PGPUB; USPAT	OR	ON	2006/07/26 13:42
S93	1346	polarized and antenna adj feed\$3	US-PGPUB; USPAT	OR	ON	2006/07/26 13:43
S94	4029996	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2006/07/26 13:43
S95	1060	S93 and S94	US-PGPUB; USPAT	OR	ON	2006/07/26 13:43



## EAST Search History

S96	191	S95 and second adj antenna	US-PGPUB; USPAT	OR	ON	2006/07/26 13:43
S97	2868	duplexer same transmitter same receiver	US-PGPUB; USPAT	OR	ON	2007/01/08 15:18
S98	3068	duplexer same (transmitter or transmit adj (path or chain)) same (receiver or transmit adj (path or chain))	US-PGPUB; USPAT	OR	ON	2007/01/08 15:19
S99	73	S98 and balanced and differential	US-PGPUB; USPAT	OR	ON	2007/01/08 15:20
S10 0	1	("2004/0192230").URPN.	USPAT	OR	ON	2007/01/08 15:26
S10 1	12	("20040192230"   "4677688"   "4803447"   "5697069"   "5789995"   "6118985"   "6288620"   "6332071"   "6633206"   "6704550"   "6721544"   "6862436").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/01/08 15:26
S10 2	1	(US-4803447-\$).did.	USPAT	OR	ON	2007/01/08 15:52
S10 3	12	(US-20040192230-\$).did. or (US-6862436-\$ or US-6721544-\$ or US-6704550-\$ or US-6633206-\$ or US-6332071-\$ or US-6288620-\$ or US-6118985-\$ or US-5789995-\$ or US-5697069-\$ or US-4803447-\$ or US-4677688-\$).did.	US-PGPUB; USPAT	OR	ON	2007/01/08 15:53
S10 4	2	S103 and balanced and differential	US-PGPUB; USPAT	OR	ON	2007/01/08 15:53
S10 5	8	("6721544").URPN.	USPAT	OR	ON	2007/01/08 17:14
S10 6	5332	common adj mode near4 rejection or CMRR and (duplexer or antenna near4 shar\$3)	US-PGPUB; USPAT	OR	ON	2007/01/08 17:16
S10 7	4053935	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2007/01/08 17:16
S10 8	4145	S106 and S107	US-PGPUB; USPAT	OR	ON	2007/01/08 17:16
S10 9	678	S108 and balanced and phase and differential	US-PGPUB; USPAT	OR	ON	2007/01/08 17:16
S11 0	5	("5121077"   "5528196"   "5742201"   "6005441"   "6104241").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/01/09 10:48
S11 1	0	("6393259").URPN.	USPAT	OR	ON	2007/01/09 10:56
S11 2	0	("6393259").URPN.	USPAT	OR	ON	2007/01/09 10:57

## EAST Search History

S11 3	2	("5748053"   "5878331").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/01/09 11:03
S11 4	695	455/82.ccls. or 455/83.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2007/01/09 11:03
S11 5	4054838	@ad<="20021218"	US-PGPUB; USPAT	OR	ON	2007/01/09 11:03
S11 6	438	S114 and S115	US-PGPUB; USPAT; USOCR	OR	ON	2007/01/09 11:03
S11 7	37	S116 and balanced	US-PGPUB; USPAT; USOCR	OR	ON	2007/01/09 11:09
S11 8	1020	455/78.ccls. or 455/80.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2007/01/09 11:09
S11 9	520	S118 and S115	US-PGPUB; USPAT; USOCR	OR	ON	2007/01/09 11:09
S12 0	26	("5444864").URPN.	USPAT	OR	ON	2007/01/09 11:48
S12 1	144	S114 and S118	USPAT	OR	ON	2007/01/09 11:49
S12 2	967	S114 or S118	USPAT	OR	ON	2007/01/09 11:49
S12 3	967	455/82.ccls. or 455/83.ccls. or 455/78.ccls. or 455/80.ccls.	USPAT	OR	ON	2007/01/09 11:49
S12 4	1317	455/82.ccls. or 455/83.ccls. or 455/78.ccls. or 455/80.ccls.	US-PGPUB; USPAT	OR	ON	2007/01/09 11:49
S12 5	809	S124 and S115	US-PGPUB; USPAT	OR	ON	2007/01/09 11:49
S12 6	25	S125 and balanced and differential	US-PGPUB; USPAT	OR	ON	2007/01/09 12:29
S12 7	16	balanced near4 input and S125	US-PGPUB; USPAT	OR	ON	2007/01/09 12:30
S12 8	2252	455/78.ccls. or 455/79.ccls. or 455/80.ccls. or 455/81.ccls. or 455/82.ccls. or 455/83.ccls. or 455/84.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/06 09:59
S12 9	4064228	@ad<="20021218"	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/06 09:59
S13 0	1075	S129 and S128	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/06 09:59